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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,046	09/15/2003	Michael Lee Gasperi	02AB146-A/YOD ALBR:0132-1	1996
7590	03/13/2006		EXAMINER KAPLAN, HAL IRA	
Alexander Gerasimow Allen-Bradley Company 704P Floor 8 T29 1201 South Second Street Milwaukee, WI 53204			ART UNIT 2836	PAPER NUMBER

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/663,046	<b>Applicant(s)</b> GASPERI ET AL.	
	<b>Examiner</b> Hal I. Kaplan	<b>Art Unit</b> 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-65 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-65 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>See Continuation Sheet</u> .           |

## DETAILED ACTION

### *Priority*

1. If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 121, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable

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petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

### ***Specification***

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract

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on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The disclosure is objected to because of the following informalities:

Page 3, line 25 contains the word "detect". It appears this should be "detecting".

Page 4, line 5 contains the phrase "periods so to overcome". It appears this should read "periods to overcome". Page 4, line 14 contains the word "sensors". It appears this should be "signals". Page 4, line 22 contains the word "providing". It appears this should be "provided". Page 7, line 20 contains the phrase "two electrode pads 14". It appears this should read "two electrode pads 14 and 16". Page 8, line 5 contains the phrase "points 34a and 36b". It appears this should read "points 34a and 36a". Page 9, lines 23-24 contain the phrase "strobe circuits 32a and 32b inputs used". It appears this should read "strobe circuits 32a and 32b used". Page 10, line 16 contains the word "difference". It appears this should be "differences". Page 10, line 18 contains the phrase "accumulate differences". It appears this should read "accumulated differences".

Page 13, line 17 contains the word "total". It appears this should be "average".

Page 13, line 26 contains the phrase "that the that serves". It appears this should read "that serves". Page 14, line 18 contains the phrase "output signals) Referring now". It appears this should read "output signals). Referring now". Page 15, line 28 contains the phrase "CHECK\_NOISE state 88". It appears this should read "CHECK\_NOISE

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state 90". Page 16, line 12 contains the phrase "IPP values exceeds". It appears this should read "IPP value exceeds". Page 16, line 18 contains the phrase "FAULT state 10". It appears this should read "FAULT state 100". Page 17, lines 12-13 contain the phrase "neither interrupt driven or polled". It appears this should read "neither interrupt driven nor polled". Page 17, line 22 contains the phrase "strobe 122". It appears this should be "strobe 126". Page 18, line 1 contains the word "reading". It appears this should be "readings". Page 18, line 3 contains the phrase "point 132". It appears this should read "point 134".

Appropriate correction is required.

4. The disclosure is objected to under 37 CFR 1.71(a) because it does not include a full written description of the invention.

Claim 47 recites the limitation "the object is a conductive object". Claim 48 recites the limitation "the object is a dielectric object". The specification does not disclose the object as being either a conductive or a dielectric object. Claim 60 recites the limitation "a memory device for storing a plurality of anticipated ranges of input signal values. Claim 62 recites the limitation "a memory circuit for storing anticipated regions of the signal values". The specification does not disclose a memory circuit.

Appropriate correction is required.

### ***Drawings***

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the memory circuit of

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claim 62 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

6. The drawings are objected to because of the following informalities: In Figure 7, 116 is referred to as "strube turn on". It appears this should be "strobe turn on".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 36-65 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 36 recites the limitation "at least one region of signal values corresponding to anticipated values of the input signals derived from anticipated variations of the input signals". Claim 49 recites the limitation "at least one combination of ranges of signal values corresponding to anticipated regions of values of the input signals". Claims 54, 59, and 62 recite the limitation "at least one predetermined combination of regions of signal values". The specification states that the strobe pulses to which the input signal values are compared are randomized, not predetermined, so that the response signal is reflective of true touch actuation rather than noise (see page 8, lines 3-6, page 11, lines 12-16, and Figures 4 and 7). It appears that the claimed comparison may be performed in the processing circuit (see page 8, line 6), but the processing circuit is only disclosed as performing an analysis of the measured current. Claims 37-48, 50-53, 55-58, 60-61, and 63-65 inherit this deficiency.

Claim 41 recites the limitation "from the FAULT state the switching system cannot be placed in the ON state without first being placed in the OFF state". From the FAULT state, the switching system is first placed in the original UNTOUCH state before being placed in the ON state, without being placed in the OFF state. The only OFF



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states disclosed are the IRELAY\_OFF and QRELAY\_OFF states (see page 16, lines 14-19 and Figure 6).

Claim 42 recites the limitation "the FAULT state is determined when noise in the input signal values is determined to be high". However, when noise in the input signal values is determined to be high, the system is switched from the CHECK\_NOISE state to the NOISY state and then to the original UNTOUCH state, without entering the FAULT state (see page 15, line 27 through page 16, line 2 and Figure 6).

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 43 and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 43 recites the limitation "the comparison is at least partially based upon a boundary between the ON state and the FAULT state". Claim 44 recites the limitation "the boundary comprises a line". As shown in Figure 5, the claimed boundary is an imaginary line on a graph, indicated by dashed line 78. No mathematical formula for this line is given, and the specification does not disclose how the circuit decides at what specific point the system switches from the ON state to the FAULT state, or from the FAULT state to the ON state. The ON and FAULT states are intangible and therefore cannot have a fixed boundary. The boundary should be referred to as a limit.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 36, 37, 40, 42, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by the US patent of Harkcom et al. (6,998,545).

As to claim 36, Harkcom, drawn to touch and proximity sensor control systems and methods with improved signal and noise differentiation, teaches, in Figures 7 and 8, a method, read on the claimed method, comprising: receiving a plurality of input signal values from a respective plurality of sensors (32) activated by an object (see column 2, lines 34-58 and column 7, 44-46); comparing the input signal values to at least one region of signal values corresponding to anticipated values of the input signals derived from anticipated variations of the input signals based at least upon anticipated noise at the sensors (see column 8, line 11 through column 9, line 19 and column 10, lines 32-35); and determining a state of the switching system based upon the comparison (see column 10, lines 42-57).

As to claim 37, in the method of Harkcom, the input signal values are based on accumulated values of sampled signals (see column 8, lines 15-29).

As to claim 40, in the method of Harkcom, the state is determined from one of a plurality of possible states, including an ON state (see column 10, lines 51-57), an OFF state (see column 10, lines 51-57), and a FAULT state (see column 10, lines 42-51).

As to claim 42, in the method of Harkcom, the FAULT state is determined when noise in the input signal values is determined to be high (see column 8, line 53 through column 9, line 6 and column 10, lines 42-51).

As to claim 45, in the method of Harkcom, the at least one combination of ranges of signal values corresponds to anticipated input signals received from a plurality of sensors activated by a naked human hand (see column 7, lines 6-11 and column 7, line 64 through column 8, line 2).

#### ***Response to Amendment***

13. The amendment to the claims filed on September 15, 2003, does not comply with the requirements of 37 CFR 1.121(c) because all of the claims are not listed in ascending numerical order. There are two claims numbered 59. The examiner has assumed for this Office Action that the second claim numbered 59 is claim 60, and the claims numbered 60-64 are claims 61-65. See also 37 CFR 1.126 and MPEP §608.01(j). Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims.* Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims,

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in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(1) *Claim listing.* All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (e.g., Claims 1–5 (canceled)). The claim listing shall commence on a separate sheet of the amendment document and the sheet(s) that contain the text of any part of the claims shall not contain any other part of the amendment.

(2) *When claim text with markings is required.* All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn—currently amended."

(3) *When claim text in clean version is required.* The text of all pending claims not being currently amended shall be presented in the claim listing in clean version, i.e., without any markings in the presentation of text. The presentation of a clean version of any claim having the status of "original," "withdrawn" or "previously presented" will constitute an assertion that it has not been changed relative to the immediate prior version, except to omit markings that may have been present in the immediate prior version of the claims of the status of "withdrawn" or "previously presented." Any claim added by amendment must be indicated with the status of "new" and presented in clean version, i.e., without any underlining.

(4) *When claim text shall not be presented; canceling a claim.*

(i) No claim text shall be presented for any claim in the claim listing with the status of "canceled" or "not entered."

(ii) Cancellation of a claim shall be effected by an instruction to cancel a particular claim number. Identifying the status of a claim in the claim listing as "canceled" will constitute an instruction to cancel the claim.

(5) *Reinstatement of previously canceled claim.* A claim which was previously canceled may be reinstated only by adding the claim as a "new" claim with a new claim number.


**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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